



Area-Based Banding for Property Tax Assessment in Transitional Countries: An Empirical Investigation

Lim, L. C., McCluskey, W., & Davis, P. (2008). Area-Based Banding for Property Tax Assessment in Transitional Countries: An Empirical Investigation. *Journal of Real Estate Literature*, 16(2), 201-215.

[Link to publication record in Ulster University Research Portal](#)

Published in:
Journal of Real Estate Literature

Publication Status:
Published (in print/issue): 01/01/2008

Document Version
Publisher's PDF, also known as Version of record

General rights
Copyright for the publications made accessible via Ulster University's Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy
The Research Portal is Ulster University's institutional repository that provides access to Ulster's research outputs. Every effort has been made to ensure that content in the Research Portal does not infringe any person's rights, or applicable UK laws. If you discover content in the Research Portal that you believe breaches copyright or violates any law, please contact pure-support@ulster.ac.uk.

Area-Based Banding for Property Tax Assessment in Transitional Countries: An Empirical Investigation

Lay Cheng Lim,* William McCluskey,** and Peadar Davis***

Abstract

This paper examines the potential applicability of an area banding approach in those situations where real estate data and other resources are scarce. The purpose is to investigate the efficacy of property tax banding with respect to transitional countries, and to test this, a number of municipalities in Kosovo are used. The banding exercise is based on the actual floor area of the property. This will illustrate the potential application of banding properties within 'area bands' as opposed to providing single point estimates of value. The paper also addresses important research questions that may have significant implications in the design of property tax systems within both transitional and developing countries.

Property tax is often considered as an ideal local tax given that real property, as the tax base, is immovable and hence a clearly defined source of potential revenue (Bird and Slack, 2002). Additional advantages include the stability of the revenue stream, its visibility in political terms, and its economic efficiency (Musgrave, 1983; Bird, 1993; Bird and Slack, 2002; and Trasberg, 2004). Real property assets represent a reserve of wealth whose transfer price can be correlated to the level of services often provided by local government. Fischel (2001) has argued that the property tax (in the United States) is like a benefit tax because the taxes approximate to the benefits received from local services. The property tax is considered an efficient tax as it promotes efficient local decision-making. However, the tax is not a panacea for a fiscally strapped local government as it represents one of the most difficult taxes to implement and maintain (Bird and Wallich, 1994). It is a resource-intensive tax as it requires technical skill in determining and maintaining the assessed values; collection and updating of property data; identifying taxpayers, collection, and enforcement (Bahl and Linn, 1992; Kelly, 1994; and Szalai and Tassonyi, 2000). It is argued for ad valorem based property tax systems it is important to have relatively mature and transparent property markets (Bryson, Cornia, and Wheeler, 2004; and Trasberg, 2004). The level of market maturity and how that translates into assisting the development of a value based property tax is an interesting research question. Market maturity is not defined in the literature but Keogh and D'Arcy (1994) suggest that it is simply not just a matter of the passage of time, but relates more to economic and

*University of Ulster, Newtownabbey, County Antrim, Northern Ireland, BT37 0QB, UK or lc.lim@ulster.ac.uk.

**University of Ulster, Newtownabbey, County Antrim, Northern Ireland, BT37 0QB, UK or wj.mccluskey@ulster.ac.uk.

***University of Ulster, Newtownabbey, County Antrim, Northern Ireland, BT37 0QB, UK or pt.davis@ulster.ac.uk.

political maturity. What is clear, however, is that the property market must be functioning at a level in which property is being traded in an environment that is open and transparent. Linked to this is the availability of market information and transaction evidence that can be objectively used in determining property values. It could be argued that many transitional countries are at various stages of market maturity particularly when one considers openness, reliability of property information, certainty of title, and ownership and financing options.

It must be recognized that the real estate markets in many of the countries of Central and Eastern Europe (CEE) tend to be highly imperfect. They are generally characterized by the lack of quality data on transactions, high transfer taxes that result in under-declared values, absence of suitably qualified appraisers, and often limited administrative structures to implement and manage real estate based taxes (Paugam, 1999). Notwithstanding these constraints, the property tax has been identified by many transitional countries as an important fiscal resource for local government (McCluskey, Almy, and Rohlickova, 1998; Tiits and Tomson, 1999; Malme and Youngman, 2001; and Szalai and Tassonyi, 2004). Given these constraints, it is important to recognize that one real property attribute that tends to be objectively collected in most, if not all, transitional countries is the size, or floor area of the property. This has led to area-based property tax systems being introduced in recognition of the need to tax real property within local authority areas as a means to raise finance to meet infrastructural and other locally-based expenditures. Exhibit 1 illustrates the predominance of area-based property taxes levied on both land and buildings in a number of transitional countries. While 'value' bases are used in several countries, these can be considered to be more normative or prescribed values as opposed to market determined.

Many of the countries within the CEE region are attempting to redress decades of low investment in infrastructure, low levels of economic growth, and the need to provide sub-national government with the revenue to support these. An expanded reliance on the area-based property tax is seen as a more feasible and realistic option to the more traditional value-based property tax (Zorn, Tesche, and Cornia, 1999). The area based system as used has a number of advantages. Firstly, it is relatively easy for taxpayers to understand as it is based on the amount of space occupied (Zorn, Tesche, and Cornia, 1999). Secondly, it is cheaper to administer than value-based assessments given the requirement of the latter to regularly revalue to capture value movements (Almy, 2002). Thirdly, administrations have some familiarity with area-based approaches (McCluskey, Almy, and Rochlickova, 1998). Fourthly, data requirements associated with an area-based tax are less than those associated with traditional measures of valuation. Fifthly, trained assessors/valuers are not required. And finally, self-appraisal or self-reporting of information is more easily accomplished (Zorn, Tesche, and Cornia, 1999). Notwithstanding these perceived advantages, the area-based system has a number of significant disadvantages. Firstly, it cannot adequately capture the value of amenities to the same extent that a system based on market values can (Bryson and Cornia, 2000). Secondly, there is also the lack of equity associated with non-value approaches, with properties of similar size being assessed at the same rate irrespective of locational differences (Bryson, Cornia, and

Exhibit 1
Property Tax Systems used in Various Transitional Countries

Country	Area-Based Property Tax System		Value-Based for Buildings ^a
	Building	Land	
Albania	✓	✓	
Armenia			✓
Belarus		✓	✓
Bosnia and Herzegovina	✓	✓	
Bulgaria	✓	✓	
Czech Republic	✓	✓	
Estonia			✓
Georgia		✓	✓
Hungary	✓	✓	
Kosovo	✓		✓
Latvia			✓
Lithuania			✓
Macedonia			✓
Moldova	✓		
Poland	✓	✓	
Romania			✓
Russian Federation		✓	✓
Serbia and Montenegro	✓	✓	
Slovak Republic	✓	✓	
Slovenia	✓	✓	
Ukraine		✓	✓
Totals	11	13	11

Note:

^aCadastral, inventory, decree value.

Wheeler, 2004). If this is viewed from the perspective of fairness, the literature shows that there is a tighter relationship between the value of properties and services consumed than between the size of properties and services used. If fairness is perceived in such a way that similarly situated groups should bear similar burdens, while differing groups should bear differing burdens, then tax levied on the basis of floor space is patently unfair, as larger properties are not necessarily more valuable (Balas and Kovacs, 1999). Finally, while less data intensive than an ad valorem system, the area-based approach still requires detailed information on the size of land and buildings, which requires certain skills in terms of referencing and measuring all types of buildings and structures.

Given the lack of a mature property market in many CEE countries, a realistic option for a real estate tax has been to use the size of the property. As a practical matter, the property tax need not be market based. There are examples where property taxes are based on a flat rate per parcel with adjustments for size, location, use, and quality (see the Arnona in Israel, Darin, 1999; and Portnov, McCluskey, and Deddis, 2001); while some property taxes are area-based, either with or without adjustment for location, use, and other factors (Mikesell, Dalehite, and Zorn, 2005).

If one accepts *a priori* that the most efficient and sophisticated property tax system is one based on values, then where do alternative approaches fit in? Not every transitional country has the resources and necessary administrative skills to implement a fully fledged *ad valorem* system. We argue in this paper that an area-based property tax is a useful interim approach that would allow for incremental development towards an *ad valorem* tax. We provide empirical analysis to illustrate how a simplistic area system based on bands could be designed utilizing data drawn from Kosovo.

This paper is divided into five sections. Section one provides the contextual background to the research in terms of the potential applicability of area-based property taxes. Section two describes the research methodology and data in relation to developing the banding approach and adjusting for property location. Section three investigates the banding of floor area under different scenarios. Section four integrates into the banding a location adjustment coefficient. The final section provides a number of concluding comments.

Research Methodology and Data

The concept of banding represents a somewhat simplistic but innovative approach to developing a property tax based around quantitative variables such as real estate value or floor area. Value-based banding has been used in Great Britain since 1993 for the taxation of residential property (Kenway and Palmer, 1999; and Davis, Lim, and McCluskey, 2004). Examples of size-based banding is used in a number of developing countries including Laos (Visounnalath, Stevenson, and Burns, 2002), Sierra Leone (McCluskey and Franzsen, 2005), and the Democratic Republic of the Congo (McCluskey and Franzsen, 2005). The methodology underpinning a floor area banding system relies upon the concept of dividing properties into different bands according to their floor area for the purposes of determining a property tax bill. The main characteristics of the floor area bands would be that there would be a single bill for each household and that the level of taxation would be based on the area of the house. The resulting tax is levied on the house, not on the constituent individuals of the household. In principal, therefore, equally sized households occupying similarly areas in different parts of the country pay comparable local taxes, although in practice it is likely that there will be some variation across local authorities depending on the extent to which municipalities spending deviates from the target set by central government. Location-adjusted floor area bands, on the other hand, recognize the value of location within assessed values and as such the research examines the effect of location by utilizing location coefficients.

Utilizing a number of municipalities in Kosovo, we have the opportunity to test relatively simplistic property tax assessment methodologies and to appraise the potential application of such approaches within transitional economies in general. In respect of Kosovo, data on each taxable property has already been collected and properties valued, allowing us to investigate the efficacy of utilizing a 'simple' banded valuation approach based initially on the floor area of the residential property and then to consider a location indexed floor area option. The latter was considered, as it would allow national adoption of a common approach not possible in the current system of ad hoc zoning using monetary units, retaining an element of locational adjustment while also retaining the essential simplicity of banding on floor area. Finally, in determining the acceptability of the various systems to the taxpayers, comparison of the alternative approach in terms of the extent of incidence change at the individual property level are also undertaken.

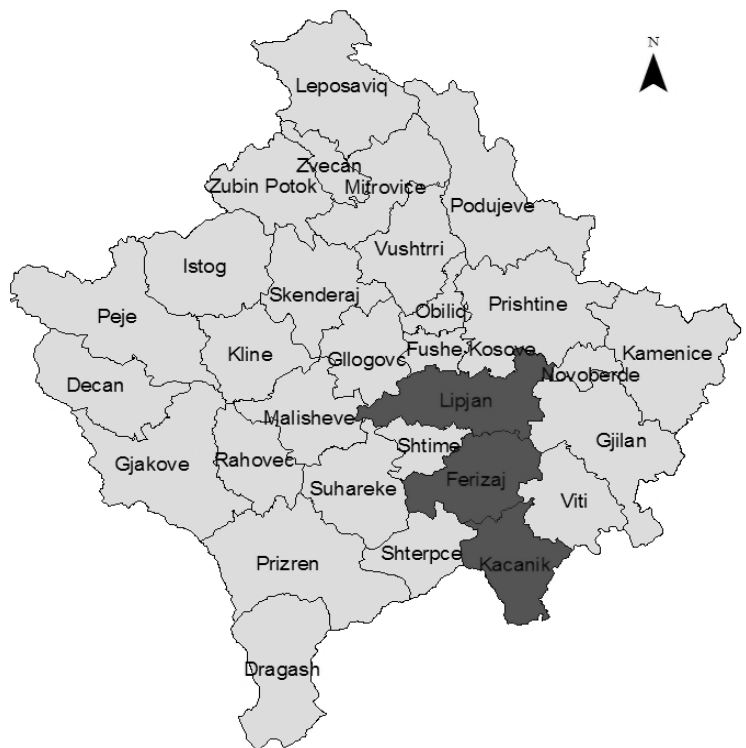
A revenue neutral position has also been adopted throughout the analysis and is limited to only residential property. Therefore, each scenario redistributes the total revenue raised by the residential property in the municipalities under the current system. In determining the acceptability of the various scenarios to the taxpayers, comparison of the alternative approaches in terms of the extent of incidence change at the individual property level is also undertaken.

The data for this research has been drawn from three municipalities within Kosovo¹ (Lipjan, Ferizaj, and Kacanik) where the total number of properties used as the sample is 30,123. Exhibit 2 illustrates the location of the municipalities within the country.

In November 2001, a pilot property tax program was undertaken in Kosovo, which resulted in the institution of the property tax in twenty-seven of the thirty municipalities. The legislation that established the property tax as an institution of municipal finance in Kosovo was Regulation 2003/29 Taxes on Immovable Property in Kosovo. The basis of the property tax was market value promulgated on the size, use, and location of the property (Powers, 2004). The effect of location was captured by delineating value zones that were directly related to the accessibility of services. The principal town or city of each municipality was designated as the area of highest value. In some municipalities, one or more principal streets were selected as the highest value locations. In Kosovo, the farther one is located from the central town or city, the poorer the quality of roads, the greater the distance from schools, the less the availability of publicly supplied water and other municipal services. Also, in the more remote villages, buildings tend to be constructed of lower quality ("softer," in Kosovo tradition) materials. For the purpose of establishing a market value, each municipality was divided into four valuation zones. The taxable value is simply the floor area of the property multiplied by its zone value (in euros/m²). The tax payable is determined by applying the tax rate¹ of 0.10% for residential properties in Ferizaj and Kacanik and 0.12% for Lipjan. This facilitates the calculation of a bill for each property, and the summation of the bills generates the total revenue, which is then used to draw comparisons with the other floor area-based banding approaches.

Exhibit 3 shows for each municipality the number of dwellings (apartments and houses) and the type of residential properties by valuation zone as used in the analysis.

Exhibit 2
Map of Kosovo



Note: In Kosovo, the lowest allowable rate for residential property is 0.05% and the highest allowable rate is 1.0%. The capital is Pristina; Population: 1.9 million (Estimated, 2002). Source: USAID Profile: Kosovo July 2005.

Clearly, single-family houses dominate the data, representing some 95% of all dwellings. It can also be seen that there is geographical concentration, with nearly 86% (1,246 out of 1,442) of the apartments located in the town center and some 61% (17,449 out of 28,681) of the houses in Zone 3.

Floor Area Banded Options

Under a traditional property value banding system, the concept is one of dividing properties into different bands according to an estimate of their capital or rental value for the purposes of determining a property tax bill. However, in this paper, the banding exercise will not be based on ‘value’ but rather on the actual floor area of the property. The three key elements of banded system are the band widths, the multiplier per band, and the multiplier ratio of lowest band to highest band. These elements can be modified in different ways to examine whether a banding system can perform adequately in terms of progressivity, a key factor in assessing the fairness of a tax.

Exhibit 3
Distribution of Property by Municipality and Type

Municipality	Zone	No. of Prop		No. of Prop		Euros/m ²
		Flat (Banesa)	Euros/m ²	Houses (Shtëpi)	Total Prop	
Ferizaj	1	650	450	378	1,028	400
	2	115	400	787	902	300
	3	49	325	6,888	6,937	250
	4	—	—	5,815	5,815	200
	Total	814		13,868	14,682	
Kacanik	1	271	300	488	759	300
	2	—	250	1,250	1,250	—
	3	—	150	3,311	3,311	—
	4	—	100	501	501	—
	Total	271		5,550	5,821	
Lipjan	1	325	350	116	441	350
	2	11	300	1,011	1,022	300
	3	21	200	7,250	7,271	200
	4	—	150	886	886	150
	Total	357		9,263	9,620	
Total		1,442 (4.8%)		28,681 (95.2%)	30,123 (100%)	

This element is of particular importance as any change in tax basis is likely to have a considerable redistributive effect. Properties for all three municipalities are grouped into different ranges of bands by floor area. This research adopts an eight-band structure as previously used in Great Britain. Analysis was conducted on a range of ratios including the ratios 3:1, 5:1, and 7:1, as these cover the low, medium, and high range and therefore give a good indication of the effect of altering the ratio.

Exhibit 4 shows under the three banding options, the multiplier that is used to determine the tax bill (note that Band 4 is the reference band). In order to work out

Exhibit 4
Multipliers under the Three Banding Options

Bands	3–1 Ratio	5–1 Ratio	7–1 Ratio
1	0.500	0.500	0.500
2	0.667	0.667	0.667
3	0.833	0.833	0.833
4	1.000	1.000	1.000
5	1.125	1.375	1.625
6	1.250	1.750	2.250
7	1.375	2.125	2.875
8	1.500	2.500	3.500

the tax bill, it is first necessary to establish a multiplier for each band. The remaining multipliers between Bands 1 and 4 were arrived at by calculating equal arithmetic steps and assigning these values to Bands 2 and 3, respectively. In order to calculate the multipliers for Bands 5 to 8, it was first necessary to calculate Band 8, which is calculated according to the relevant ratio employed. The next stage in assessing the bills is common to all of the scenarios requiring a calculation of the number of Band 4 equivalents that lie in each band. This is worked out by multiplying the number of properties in each band by the multiplier for each band. The number of Band 4 equivalents in each band is then totaled to give the total number of Band 4 equivalent properties in the study area. This allows us to divide the total billable amount by the total number of Band 4 equivalent properties to arrive at the Band 4 tax bill. Tax bills for the other bands are then allocated by multiplying the Band 4 bill by the relevant multiplier for each band.

To arrive at band change points, the average floor area in the data set was calculated. On balance of methodological consistency and performance in initial testing, the median was selected as the most appropriate measure of the “average” area for the purposes of the research. The median (80m²) is thus inserted as the top limit for Band 4. The top of Band 1 (20m²) was calculated as the five percentile figure (the floor area below which 5% of the properties lie). This allowed the change points for Bands 1–4 to be calculated as equal arithmetic steps. In order to calculate the change points for Bands 5–8, a similar exercise was undertaken, with the highest Band 8 (190m²) threshold representing the ninety-five percentile (the floor area above which 5% of the properties lie). With the figure for the top of Bands 5 and the 8 threshold, it was then possible to calculate the intervening change points as equal arithmetic steps. For both the five percentile and ninety-five percentile, some minor rounding was carried out to bring the band change points to an acceptable round number. Exhibit 5 shows the area bands structure and the number of properties in each band along with the associated tax bills.

Exhibit 5
Property Tax Bill Based on Proposed Floor Area Bands

Bands	Floor Area Bands	No. of Properties	% Properties	Tax Bill (3–1 ratio)	Tax Bill (5–1 ratio)	Tax Bill (7–1 ratio)
1	< 20	1,572	5.2	11.45	9.35	7.90
2	21–40	2,784	9.2	15.27	12.47	10.54
3	41–60	5,161	17.1	19.09	15.59	13.17
4	61–80	6,104	20.3	22.91	18.71	15.81
5	81–110	6,107	20.3	25.77	25.72	25.69
6	111–150	4,915	16.3	28.63	32.74	35.57
7	151–190	1,998	6.6	31.49	39.75	45.45
8	> 190	1,482	4.9	34.36	46.77	55.33
Total		30,123	100			

Exhibit 6 shows the effect of moving to a banded system from the current discrete value, along with the effect of increasing the ratio of the tax bill between the top and bottom bands (i.e., from a 3:1 multiplier to 5:1 and 7:1). It can be seen that in comparison with area banding, the current value-based system is in fact levying the least tax from the smallest properties and the most tax from the largest properties. The picture in the mid ranges is not so clear cut. What can clearly be seen is that as the banding ratio increases, banding becomes increasingly progressive, raising less from the smaller properties and more from the larger dwellings. Clearly, the pattern of revenue raising is fairly consistent across all four options, remarkably so for properties falling into Band 6. Given that we have assessed values for each property, we can directly compare the performance of the area approach against the value approach in terms of distribution and progressivity. The research results can lead to the assertion that in the absence of assessed values, the use of floor area is a good proxy upon which to base the property tax.

The use of floor area alone produces a fairly robust distribution of tax bills across the various scenarios. In order to refine the approach, we need to integrate a locational value into the methodology in order to capture location influences. Such locational factors would include proximity to city center and associated accessibilities to services, which would result in a significant positive adjustment. Equally more remote locations are likely to have a negative adjustment.

Location-Adjusted Floor Area Banding

For this analysis, the floor area of the properties is adjusted according to which value zone (based on the current system) they are located within. Rather than the monetary adjustment currently used, which is different in each municipality, a common system has been devised by the application of an adjustment coefficient. The adjusted floor areas are therefore calculated by multiplying the floor area by the location adjustment coefficient, being indexed up or down to reflect the location, creating a new indexed floor area attribute. These are then banded using the same approach adopted earlier. As Zone 3 has the largest number of properties (58.2%), this is adopted as the base zone. In determining the location coefficient to be applied to each valuation zone, available sales were analyzed and compared to valuation Zone 3. However, sales data across the two main property types were extremely limited. If more data were available, the location coefficients could have been refined more accurately. Exhibit 7 shows properties located in valuation Zone 1 were on average 2.5 times more valuable than Zone 3.

Exhibit 8 shows the bands, number, and percentage of properties per band and the tax bills according to the various ratios. Banding at low ratio (3:1) has the effect of taking more tax from the lower value properties and less tax from the higher valued dwellings, by virtue of a higher minimum tax (11.63 euros) bill and a lower maximum bill (34.90 euros). At the higher 5:1 and 7:1 ratios, banding on floor area has the effect of pushing more of the tax take above the median value and onto the larger properties (see Exhibit 8). This would suggest that the weight of taxation has been

Exhibit 6
Total Tax Burden between Current Individual Bill and Floor Area Band Bills

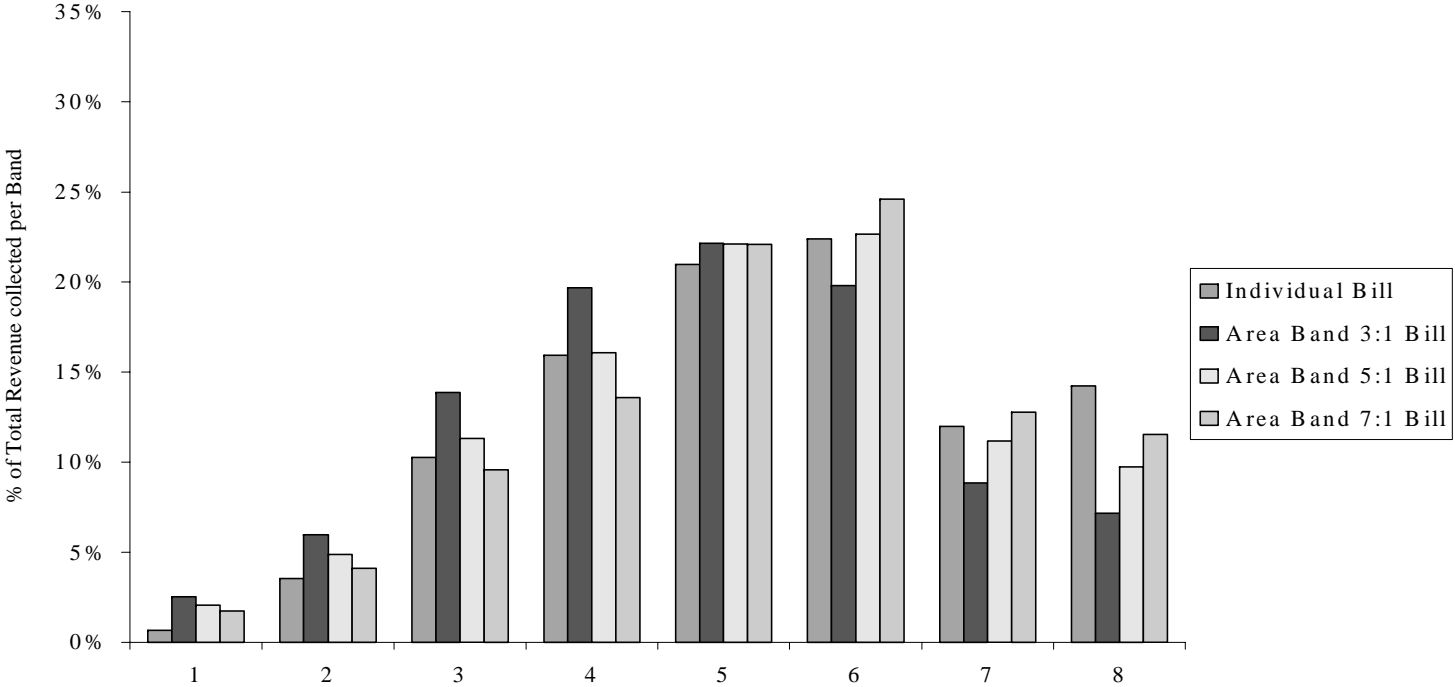


Exhibit 7
Distributions of Properties Adjusted by Location Coefficient

Valuation Zone	No. of Properties	% Properties	Location Coefficient
1	2,228	7.4	2.50
2	3,174	10.5	1.50
3	17,519	58.2	1.00
4	7,202	23.9	0.50
Total	30,123	100.0	

Exhibit 8
Property Tax Bill Based on Indexed Floor Area Bands

Bands	Floor Area Bands	No. of Properties	% Properties	3:1 Tax Bill	5:1 Tax Bill	7:1 Tax Bill
1	< 20	2,372	7.9	11.63	9.37	7.84
2	21–40	3,731	12.4	15.51	12.49	10.45
3	41–60	5,059	16.8	19.39	15.61	13.07
4	61–80	5,306	17.6	23.27	18.74	15.68
5	81–110	4,814	16.0	26.18	25.76	25.48
6	111–150	4,242	14.1	29.09	32.79	35.28
7	151–190	2,126	7.1	32.00	39.81	45.08
8	> 190	2,473	8.2	34.90	46.84	54.88
Total		30,123	100			

	Discrete Bill	3:1 Tax Bill	5:1 Tax Bill	7:1 Tax Bill
Mean	23.60	23.60	23.60	23.60
Median	20.00	23.27	18.74	15.68
Std. Dev.	16.29	6.57	11.03	14.26
Coeff. of Var.	69%	28%	47%	60%
Minimum	0.20	11.63	9.37	7.84
Maximum	385.20	34.90	46.84	54.88

spread out and pushed upwards onto larger properties, if not necessarily the largest (due to the capping effect inherent with banding). As the ratio increases, the range of tax bills increases, with a corresponding decrease in the median tax bill paid. Indeed, increasing the ratio would have the effect of making the tax increasingly more progressive. In addition to the wide spread between the minimum and maximum bill (with the lowest bills being 0.20 euros to the highest bills of 385.20 euros), statistical measures such as standard deviation and coefficient of variation show a high level of dispersion in tax bills under the current discrete system (see Exhibit 8).

When the results for the two approaches (area and location adjusted area) are directly compared, it appears that there is a great deal of similarity of performance between the two systems at this level of analysis. Both systems generate very similar bill structures and distribute the tax burden in a similar fashion. Certain properties may indeed move from one band to another, which would result in a difference on an individual basis. For example, a small property that is centrally located may move from a lower band (based on floor area alone) to a higher band (when location is accounted for). The opposite may well occur for a larger property in a peripheral location. However, as Exhibit 9 demonstrates, over 60% of properties would remain in the same band under either banding system. Approximately 15% of the properties would see a one band change with a further 16% experiencing a two band change. A small proportion of approximately 6.4% of properties will experience a three band move or greater.

Conclusion

The main purpose of this paper was to consider the efficacy of a robust system of ‘valuation banding’ based on the floor area of residential property as an alternative approach to individual discrete valuations. In many transitional countries, evidence of open market property transactions is limited and often of suspect quality, whereas, data on the floor area of property is generally widely available and more accurate. The introduction of value-based ad valorem property tax systems can be fraught with difficulty, particularly where individual discrete valuations are required for each taxable property. The underpinning rationale adopted in this paper recognizes the need

Exhibit 9
Band Change from Floor Area Band to Indexed Floor Area Band

Band Change	Frequency	Percent
−4	44	0.1
−3	1,311	4.4
−2	1,300	4.3
−1	2,182	7.2
0	18,761	62.3
1	2,282	7.6
2	3,637	12.1
3	606	2.0
Total	30,123	100.0
1 band move	4,464	14.8
2 band move	4,937	16.4
3 band move	1,917	6.4
4 band move	44	0.1
No change	18,761	62.3
Total	30,123	100.0

for transitional countries to maximize their limited resources and utilize data that are more readily available to develop a valuation-based property tax system. The size of a taxable property, whether it be land and or a building, is a useful starting point in developing an initial property tax. While we accept the positive advantages in having an ad valorem property tax, such as greater fairness and equity, often the financial, economic, and political environment is not sufficiently developed to introduce such a tax. It is considered that a banded approach, if designed to reflect both the perceived structure of the property values and the cultural and social expectations of the taxpayers, in terms of the number of bands, size of bands, and tax structure can overcome those technical and administrative valuation-based issues typically found in most transitional countries. Kosovo has provided us with an opportunity to compare the current value-based property tax with one derived from using the floor area of each property. This has allowed for the comparison of a value-based approach with one based first on floor area and then by floor area adjusted for location.

The research considered as a first stage the banding of properties based on the raw floor area of property; the second stage was to investigate location indexed floor areas. The location-adjusted area based system at the 7:1 ratio produced the lowest median bill of any of the options, the lowest minimum bill, and the highest maximum bill of the banding options and performed best against the current system in progressive revenue raising terms. In these terms, it would appear that it is the best performer of the banding options and most likely to gain acceptance in practice. It also demonstrates an inherent feature of banding (i.e., the removal of uncollectible small tax bills and also limiting the top end of liabilities), which might otherwise serve as a disincentive to invest in adequately sized accommodation for the needs of the populace, thereby lessening the risk that a tax which seeks to raise revenue for public services may lead to overcrowding and other associated social ills.

The result of this analysis indicates that a banded floor area approach provides a reasonable and cost-effective option where the necessary professional valuation skills and property transaction data are limited. The research demonstrates that a simplified system based on banded floor area can achieve a distribution of values and tax bills broadly similar to that of a discrete value-based system. The necessity of having simple, cost-effective solutions to the ad valorem problem for transitional countries cannot be overestimated given their scarcity of resources. Placing residential properties into one of several area bands is a relatively inexpensive and efficient procedure to produce assessed values on which to base a source for local authority revenue. The use of private sector valuers in co-operation with government valuers can speed up the process and reduces the cost with minimal loss of accuracy. In this way banding could prove to be a valuable tool in effectively harnessing local revenue raising capacity in transitional economies and thereby producing a sustainable source of revenue to enable local government to effectively and efficiently fulfill their remit.

Endnote

1. Kosovo previously existed as a semi-autonomous province of the former Republic of Yugoslavia where some 90% of the population were Albanian speaking Kosovars. The

imposition of Serbian rule in Kosovo in 1990 began a period of unrest and ultimately war, which ended in 1999. On June 10, 1999, the United Nations Security Council authorized the Secretary-General to establish an interim civilian administration in Kosovo, led by the United Nations, under which the people of Kosovo could progressively enjoy substantial autonomy (Powers, 2004).

References

- Almy, R. *A Survey of Property Tax Systems in Europe*. Prepared for the Department of Taxes and Customs, Ministry of Finance, Republic of Slovenia, 2002.
- Bahl, R.W. and J.F. Linn. *Urban Public Finance in Developing Countries*. Washington, D.C.: World Bank, 1992.
- Balas, G. and R. Kovacs. Potential for the Introduction of a Value Based Property Tax in Hungary. *Journal of Property Tax Assessment & Administration*, 1999, 4:2, 53–84.
- Bird, R.M. Threading the Fiscal Labyrinth: Some Issues in Fiscal Decentralization. *National Tax Journal*, 1993, 46, 207–27.
- Bird, R.M. and E. Slack. Land and Property Taxation Around the World: A Review. *Journal of Property Tax Assessment and Administration*, 2002, 7:3, 31–80.
- Bird, R.M. and C. Wallich. Local Finance and Economic Reform in Eastern Europe. *Environment and Planning C: Government and Policy*, 1994, 12, 263–76.
- Bryson, P. and G. Cornia. Fiscal Decentralisation in Economic Transformation: The Czech and Sloviak Cases. *Europe-Asia Studies*, 2000, 52:3, 507–22.
- Bryson, P.J., G.C. Cornia, and G.E. Wheeler. Fiscal Decentralization in the Czech and Slovak Republics: A Comparative Study of Moral Hazard. *Government and Planning C: Government and Policy*, 2004, 22, 103–13.
- Davis, P., L.C. Lim, and W.J. McCluskey. Residential Property Taxation: A Capital Value Banding Approach. *Journal of Property Tax Assessment and Administration*, 2004, 1:3, 51–64.
- Darin, D. A Politician's Appraisal of Property Taxation: Israel's Experience with Arnona. Research paper, Lincoln Institute of Land Policy, Cambridge, MA, 1999.
- Fischel, W.A. Homevoters, Municipal Corporate Governance and the Benefit View of the Property Tax. *National Tax Journal*, 2001, 54:1, 157–73.
- Kelly, R. Implementing Property Tax Reform in Transitional Countries: the Experience of Albania and Poland. *Environment and Planning C: Government and Policy*, 1994, 12, 319–31.
- Kenway, P. and G. Palmer. *Council Tax: The Case For Reform*. London: New Policy Institute, 1999.
- Keogh, G. and E. D'Arcy. Market Maturity and Property Market Behaviour: A European Comparison of Mature and Emergent Markets. *Journal of Property Research*, 1994, 11:3, 215–35.
- Malme, J.H. and J.M. Youngman. Introduction. In J.H. Malme and J.M. Youngman (Eds.), *The Development of Property Taxation in Economies in Transition, Case Studies from Central and Eastern Europe*. Washington, D.C.: The World Bank, 2001.
- McCluskey, W.J., R. Almy, and A. Rohlickova. The Development of Property Taxation in the New Democracies of Central and Eastern Europe. *Property Management*, 1998, 16:3, 145–59.
- McCluskey, W.J. and R.C.D. Franzsen. *An Exploratory Overview of Property Taxation in the Commonwealth of Nations*, Working Paper (WP05RF1a), Lincoln Institute of Land Policy, Cambridge, MA, 2005.
- Mikesell, J., E. Dalehite, and K. Zorn. Variation in Property Tax Abatement Programs Among States. *Economic Development Quarterly*, 2005, May, XIX.
- Musgrave, R. Who Should Tax, Where and What? In C. McClure (Ed.), *Tax Assignment in Federal Countries*. National Bureau of Economic Research, Princeton University Press, New Jersey, 97–122, 1983.

Paugam, A. Reform Toward an Ad Valorem Property Tax: Fiscal and Non-fiscal Benefits in Transition Economies. *Journal of Property Tax Assessment and Administration*, 1999, 4:2, 3–26.

Portnov, B.A., W.J. McCluskey, and G.W. Deddis. Property Taxation in Israel: A Non and Ad Valorem Approach. *Land Use Policy*, 2001, 18, 315–64.

Powers, S. Property Tax Implementation in Kosovo. *Journal of Property Tax Assessment & Administration*, 2004, 1:2, 45–55.

Szalai, A. and A. Tassonyi. *Value Based Property Taxation: Options for Hungary*. Toronto: Canadian Urban Institute, 2000.

Trasberg, V. Property and Land Taxation in the Baltic States. *Journal of Property Tax Assessment and Administration*, 2004, 1:2, 31–43.

Tiits, T. and A. Tomson. Land Value Taxation in Estonia. In W.J. McCluskey (Ed.), *Property Tax: An International Comparative Review*. Aldershot, UK: Ashgate Publishing Company, 375–84, 1999.

Visounnalath, O., R. Stevenson, and T. Burns, Lao People's Democratic Republic: A Practical Review of Land and Property Valuation in the Context of Land Administration. *Journal of Property Tax Assessment and Administration*, 2002, 7:3, 3–17.

Zorn, C.K., J. Tesche, and G. Cornia. *The Potential for a Property Tax in Bosnia and Herzegovina*. Working Paper, Lincoln Institute of Land Policy, Cambridge, MA, 1999.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.